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EXAMINER	
KE, PENG	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/892,254	GIPS ET AL.	
	Examiner	Art Unit	
	Peng Ke	2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-46 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-46 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1-10, 13, 14, 16, 17, 19, 23-26, 30-39, and 43-46 rejected under 35 U.S.C. 102(e) as being anticipated by Wagner et al. (US 6,101,264).

As per claim 1, Wagner teaches a method for providing input to a system which uses a visual display for providing user information, comprising:

(a) choosing a feature associated with a system user (col. 4, lines 32-46);

(b) determining a location of the feature in a video image from a video camera at an initial time (col. 5, lines 43-53);

(c) determining a subsequent location of the feature in a video image from the video camera at a subsequent given time (col. 5, lines 43-52; It is inherent when evaluating each movement of the feature, the system must determining a subsequent location of the feature in a video image from the video camera); and

(d) providing input to the system at the subsequent given time based upon the location of the feature in the video image at the subsequent given time (col. 4, lines 32-46).

As per claim 2, Wagner teaches the method of claim 1, wherein in the step of choosing, the feature associated with a ms user includes one of a body, face, or article of clothing (col. 4, lines 32-46).

As per claim 3, Wagner teaches the method of claim 1 wherein in the step of choosing the feature includes a portion of a substance or device affixed to the system user (col. 4, lines 32-46).

As per claim 4, Wagner teaches the method of claim 1, wherein the step of providing input includes providing vertical horizontal coordinates (col. 5, lines 5-20).

As per claim 5, Wagner teaches the method of claim 4, wherein the vertical and horizontal coordinates are used as a basis locating an indicator on the video display being used by the system to display material for the user. (col. 4, lines 54-57)

As per claim 6, Wagner teaches the method of claim 5, wherein locating an indicator includes determining the indicator location at the given time based upon a location of the indicator at a previous time, and a change between a location of the feature in the video image at the previous time and the location of the feature in the video image at the given time (col. 6, line 23-36).

As per claim 7, Wagner teaches the method of claim 5, wherein the indicator location is determined at the given time based upon the location of the feature in the video image at the given time independent of previous indicator locations (col. 6, line 23-36).

As per claim 8, Wagner teaches the method of claim 4, wherein the vertical and horizontal coordinates are used as a basis determining a direction of movement of an indicator on a video display being used by the system to display material for the user (col. 5, lines 21-30).

As per claim 9, Wagner teaches the method of claim 4, wherein the vertical and horizontal coordinates are used as a basis determining a direction of movement of a background image on a video display screen being by the system to display material for the user, as an indicator on the video display screen remains in a fixed position (col. 5, lines 21-30).

As per claim 10, Wagner teaches the method of claim 1, wherein the system is a computer program (col. 2, lines 6-13).

As per claim 13, Wagner teaches the method of claim 1, wherein the input provided is based upon a change in the location feature in the video image between a previous time and the given time.

As per claim 14, Wagner teaches the method of claim 1, wherein the input provided at the given time is an affirmative signal or a negative signal based on whether the motion of the feature in the video image is in a vertical direction or a horizontal direction prior to the given time (col. 6, lines 15-18).

As per claim 16, Wagner teaches the method of claim 10, wherein:

(a) the computer program is running on a computer (fig 1. item 1); and

(b) the locations of the feature in the video images are determined by the computer (fig 1. items 10, and 11).

As per claim 17, Wagner teaches the method of claim 10, wherein:

(a) the computer program is running on a computer (fig 1. item 1); and

(b) the locations of the feature in the video images are determined by a video acquisition board on the computer (col. 4, lines 47-58) .

As per claim 19, Wagner teaches the method of claim 1, wherein determining the location of the feature in the video at the given time further comprises:

(a) choosing a fixed area of a video image from a prior time, the fixed area containing the chosen feature at a known point therein (col. 4, line 16-33);

(b) comparing video input signals for specified trial areas of the video image at the given time with video input signals for the fixed area of the video image from the prior time (col. 4, line 16-33);

(c) choosing the trial area most similar to the fixed area based on the compared video input signals (col. 4, line 16-33); and

(d) selecting as the location of the feature in the video image at the given time, a point within the chosen trial area bearing the same relationship to the chosen trial area as the known point does to the fixed area (col. 4, line 16-33).

As per claim 23, Wagner teaches a method of providing input to a system which uses a visual display for providing user information, comprising:

(a) capturing a first video image of at least a part of a system user (col. 4, lines 32-46);

(b) choosing a feature in the first video image associated with the user (col. 4, lines 32-46);

(c) choosing a base pixel corresponding to a location of the chosen feature in the first video image (col. 4, lines 47-58);

(d) capturing a successive video image of at least the part of the user (col. 4, lines 47-58);

(e) choosing a successive pixel corresponding to the location of the chosen feature in the successive video image (col. 4, lines 32-46) ; and

(f) controlling the input to the system based on the location of the base pixel and the successive pixel.

As per claim 24, which is dependent on claim 23, it is of the same scope as claim 2. (see rejection above)

As per claim 25, which is dependent on claim 23, it is of the same scope as claim 3. (see rejection above)

As per claim 26, Wagner teaches the method of claim 23, further comprising iteratively repeating steps (d), (e) and (f) the successive pixel of one iteration used as the base pixel for the next iteration (col. 4, lines 15-34).

As per claim 30, Wagner teaches the method of claim 23, wherein:

(a) the feature comprises a plurality of sub-features (col. 5, lines 30-64);

(b) the base pixel is determined from a plurality of sub-base pixels, each sub-base pixel corresponding to a location of one of the sub-features (col. 5, lines 30-64);

(c) the successive pixel is determined from a plurality of sub-successive pixels, each sub-successive pixel corresponding to a location of one of the sub-features in the successive video image (col. 5, lines 30-64); and

(d) the successive pixel is determined from the sub-successive pixels by a same calculation as the base pixel is determined from the sub-base pixels (col. 5, lines 30-64).

As per claim 31, Wagner teaches the method of claim 30, wherein the base and successive pixels are a weighted average e locations of the sub-base and sub-successive pixels, respectively (col. 5, lines 50-64).

As per claim 32, Wagner teaches the method of claim 23, wherein controlling the system input further comprises providing data signals to an input device of the system (col. 4, lines 16-36).

As per claim 33, which is dependent on claim 23, it is of the same scope as claim 10 (see rejection above).

As per claim 34, which is dependent on claim 23, it is of the same scope as claim 4 (see rejection above).

As per claim 35, Wagner teaches the method of claim 34, wherein the vertical and horizontal coordinates are used as a basis for locating an indicator on a video display being used by the system to display material for user (col. 5, lines 23-30).

As per claim 36, Wagner teaches the method of claim 35, wherein the indicator location is determined at a given time I upon a location of the indicator at a previous time, and a difference between the locations base pixel and the successive pixel at the given time (col. 5, line 35-48).

As per claim 37, Wagner teaches the method of claim 35, wherein the indicator location is determined at a given time the upon the location of the successive pixel at the given time independent of a previous indicator location (col. 5, lines 50-64).

As per claim 38, Wagner teaches the method of claim 34, wherein the vertical and horizontal coordinates are used as a basis for determining a direction of movement of an indicator on a video display being used by the system to display material for the user (col. 5, lines 23-30).

As per claim 39, which is dependent on claim 34, it is of the same scope as claim 8. (see rejection above)

As per claim 43, which is dependent on claim 23, it is of the same scope as claim 14. (see rejection above)

As per claim 44, Wagner teaches a system for providing input to a computer by a user, comprising:

(a) a video camera for capturing video images of at least a part of the user and outputting video signals corresponding to the video images (col. 4, lines 37-43);

(b) a tracker for receiving the video output signals from the camera and outputting data signals corresponding to a feature associated with the user (col. 5, lines 21-30); and

(c) a driver for receiving the data signals and controlling an input device of the computer in response thereto (col. 4, lines 2-14).

As per claim 45, Wagner teaches the system of claim 44, wherein the tracker further comprises:

(a) a video acquisition board for digitizing the output signals from the video camera (col. 4, lines 16-33);

(b) a memory for storing the digitized output signals as image data (col. 4, lines 16-33); and

(c) at least one processor for comparing stored image data, determining a location of the feature in the video images and generating data signals based on the determined locations (col. 6, lines 13-22).

As per claim 46, Wagner teaches the system of claim 45, wherein the at least one processor further comprises computer-readable medium containing instructions for controlling a computer system to compare the stored image data and determine the location of the feature, by:

(a) choosing stored image data of a fixed area of a prior video image, the fixed area containing the feature as a known position therein (col. 4, lines 15-34);

(b) comparing stored image data of specified trial areas of a subsequent video image with the stored image data of the fixed area (col. 4, lines 15-34);

(c) choosing the trial area most similar to the fixed area based on the compared image data (col. 4, lines 14-34); and

(d) selecting as the location of the feature in the subsequent video image, a point within the chosen trial area bearing the same relationship to the chosen trial area as the known point does to the fixed area (col. 4, lines 14-34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 11, 12, 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al. (US 6,101,264) in view of Takahashi et al. (US 5,999,877).

As per claim 11, Wagner teaches the method of claim 1. However, Wagner fails to teach wherein the input is provided in response to the location of the feature in the video image changing by less than a defined amount during a defined period of time.

Takahashi et al. teaches a method wherein the input is provided in response to the location of the feature in the video image changing by less than a defined amount during a defined period of time (col. 4, lines 10-20).

It would have been obvious to an artisan at the time of the invention to include Takahashi et al.'s teaching with Wagner's method in order to help system discriminate an adjacently running object from a shadow.

As per claim 12, Wagner and Takahashi teach the method of claim 11. Wagner further teaches wherein:

(a) the input provided is selected from a group consisting of letters, numbers, spaces, punctuation marks, other defined characters and signals associated with defined actions to be taken by the system (col. 4, lines 15-34); and

(b) the selection of the input is determined by the location of the feature in the video image (col. 4, lines 15-34).

As per claim 40, which is dependent on claim 23, it is of the same scope as claim 11. (see rejection above)

As per claim 41, which is dependent on claim 40, it is of the same scope as claim 12. (see rejectio n above)

As per claim 42, Wagner teaches the method of claim 23. However, he fails to teach wherein the input to the system is controlled based upon the difference between the location of the base and successive pixels.

Takahashi teaches a method wherein the input to the system is controlled based upon the difference between the location of the base and successive pixels (col. 7, lines 24-45).

It would have been obvious to an artisan at the time of the invention to include Takahashi et al.'s teaching with Wagner's method in order to help system discriminate an adjacently running object from a shadow.

Claims 15, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al. (US 6,101,264) in view of Hein et al. (US 6,466,250).

As per claim 15, Wagner teaches the method of claim 10. However, he fails to teach wherein:

(a) the computer program is running on a first computer; and

(b) the locations of the feature in the video images are determined by a second computer.

Hein teaches a method wherein:

(a) the computer program is running on a first computer (col. 5, lines 35-40); and

(b) the locations of the feature in the video images are determined by a second computer (col. 35-40).

It would have been obvious to an artisan at the time of the invention to include Hein's teaching with Wagner's method in order to allow multiple accesses to the server.

As per claim 18, Wagner teaches the method of claim 10. However, he fails to teach wherein the computer program is a Web browser.

Hein teaches the computer program is a Web browser (col. 5, lines 18-25)

It would have been obvious to an artisan at the time of the invention to include Hein's teaching with Wagner's method in order to allow application to be shared..

As per claim 20, Wagner teaches the method of claim 19. However, he fails to teach wherein the known point and the point within the chosen trial are located at the center of the fixed area and the chosen trial area, respectively.

Hein et al. teaches a method wherein the known point and the point within the chosen trial are located at the center of the fixed area and the chosen trial area, respectively (col. 8, lines 55-68).

It would have been obvious to an artisan at the time of the invention to include Hein's teaching with Wagner's method in order to always allow the users to always be seem by the other through camera.

Claims 21, 22, 27, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al. (US 6,101,264) in view of Basu et al. (US 6,594,629).

As per claim 21, Wagner teaches the method of claim 19. However he fails to teach wherein choosing the trial area comprises calculating normalized correlation coefficients between the video input signals for the fixed area and for each specified area.

Basu et al. teaches wherein choosing the trial area comprises calculating normalized correlation coefficients between the video input signals for the fixed area and for each specified area (col. 12, lines 65-68, col. 13, lines 1-5).

It would have been obvious to an artisan at the time of the invention to include Basu's teaching with Wagner's method in order to extracting visual feature vectors, which is what Wagner intended to do (col. 5, lines 35-50).

As per claim 22, Wagner and Basu teaches the method of claim 21. Basu et al. further teaches a method wherein the video input signals are grey-scale intensity signals (col. 12 ,lines 46-60).

As per claim 27, Wagner teaches the method of claim 23. However, he fails to teaches wherein choosing the successive pixel further comprises:

(a) creating a base template of pixels associated with the base pixel;

(b) selecting a window of trial pixels surrounding the base pixel;

(c) iteratively creating a trial template associated with each trial pixel, the trial template bearing the same relationship to the trial pixel as the base template does to the base pixel; and

(d) choosing as the successive pixel the trial pixel whose trial template most closely corresponds to the base template.

Basu teaches choosing the successive pixel further comprises:

(a) creating a base template of pixels associated with the base pixel (col. 10, lines 6-20);

(b) selecting a window of trial pixels surrounding the base pixel;

(c) iteratively creating a trial template associated with each trial pixel, the trial template bearing the same relationship to the trial pixel as the base template does to the base pixel (col. 10, lines 40-64); and

(d) choosing as the successive pixel the trial pixel whose trial template most closely corresponds to the base template (col. 10, lines 40-64).

It would have been obvious to an artisan at the time of the invention to include Basu's teaching with Wagner's method in order to compare two face images when one of which is captured in a different angle. (col. 5, lines 35-50).

As per claim 28, Wagner and Basu teaches method of claim 27. Basu further teaches wherein choosing the successive pixel further comprises:

(a) determining a base greyscale intensity of the base template (col. 13, lines 1-35);

(b) determining a trial greyscale intensity of each trial template (col. 13, lines 1-35); and

(c) comparing each trial greyscale intensity with the base greyscale intensity (col. 13, lines 1-35).

As per claim 29, Wagner and Basu teaches method of claim 28. Basu further teaches wherein comparing the greyscale intensities further comprises calculating correlation coefficients for the base template with each trial template (col. 12, lines 65-68).

Conclusion

The following patents are cited to further show the state of the art with respect to a image system:

Van Schyndel (US 5,940,118) : discloses system and method for steering directional microphones.

Sasaki (US 5,959,672): discloses picture encoding sytem.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peng Ke whose telephone number is (703) 305-7615. The examiner can normally be reached on M-Th and Alternate Fridays 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine L Kincaid can be reached on (703) 308-0640. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peng Ke

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